

## MDS Multisplit heat pumps with Variable Refrigerant Flow System (VRF) with power from 12 to 60 kW



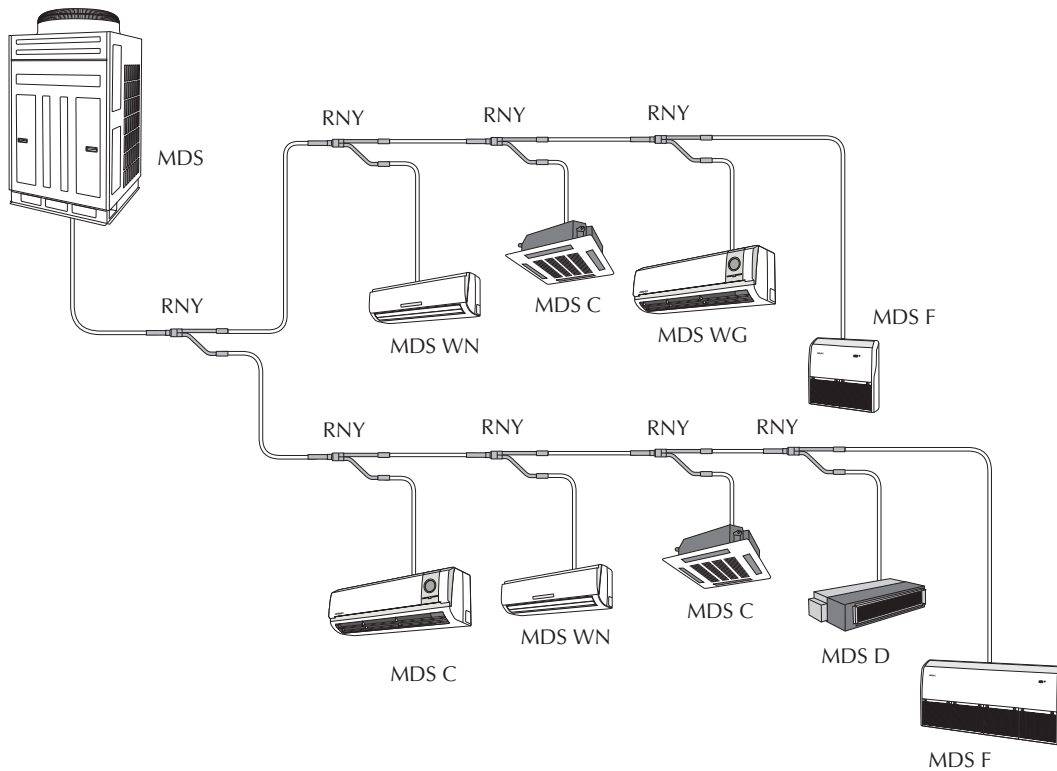
### Characteristics

- Available in 7 versions of condensing units with different powers
- Combination with different types of indoor units: wall (MDS WN), cassette (MDS C), floor-ceiling (MDS F) and duct type (MDS D)
- From 2 to 32 indoor units can be connected
- R410A refrigerant gas
- Total power connectable to the outdoor unit between 50% and 135% of its rated power
- Wire control panel standard on all indoor units
- Infrared remote control standard on all indoor units
- Digital scroll compressors have been chosen to maximise efficiency, reduce consumption, and minimise peak absorption to efficiently check the oil return to the compressor, to optimize the ambient temperature and humidity
- Microprocessor control
- In the MDS systems, the refrigerator connections are created using braze welded Y-shunts (supplied as a mandatory accessory), ensuring flexibility in the installation and full respect for the safety regulations, as well as lower environmental impact due to the absence of leaks
- Extremely quiet operation
- Air filter easy to remove and regeneratable
- Maximum length of refrigerator lines up to 300m for the MDS120, MDS60T units; up to 500m for the MDS260T, MDS 300T, MDS450T, MDS560T and MDS600T units
- **Condensation control device as standard supply; enables operation even with low outdoor temperatures.**

### Accessories

- **RNY11:** Y-shunt for total installed power downstream less than or equal to 20 kW; the accessory is composed of two Y-shunts, one for the liquid line and one for the gas line.
- **RNY12:** Y-shunt for total installed power downstream greater than 20 kW but less than or equal to 30 kW; the accessory is composed of two Y-shunts, one for the liquid line and one for the gas line.
- **RNY21:** Y-shunt for total installed power downstream greater than 30 kW; the accessory is composed of two Y-shunts, one for the liquid line and one for the gas line.
- **MDSGL40:** Air delivery/return grille. This is a **mandatory accessory**, as the MDS C units are delivered without them.
- **MDSGL40S:** Air delivery/return grille. This is a **mandatory accessory**, as the MDS CS units are delivered without them.
- **MDSCC:** Centralised control by means of which up to 64 communication modules (MDSCM accessory) can be handled, for a maximum of 64 outdoor units and 1024 indoor units.
- **MDSCM:** Communication module. Up to 16 indoor units and the related outdoor unit can be connected to each module.
- **MDSR:** Signal repeater; necessary if the communication cables are more than 1000 metres long.

## Connection examples



## Technical data

Outdoor units	MDS	120	160T	260T	300T	450T	560T	600T
Cooling capacity (nominal)	kW	12	16	26	30	45	56	60
Total absorbed power (nominal)	kW	3,9	4,9	8,5	9,0	14,5	18,5	19,2
Heating capacity (nominal)	kW	14	17	28,5	33,5	48	60	63
Absorbed power (nominal)	kW	3,8	4,8	8,0	8,8	13,7	18	18,2
Maximum absorbed power	kW	6	7,5	15	15	20,3	28	30
Total input power (min/max)	kW	6/16,2	8/21,6	13/35,1	15/40,5	22,5/60,8	28/75,6	30/81
Max. number of units connectable	n.	7	9	16	16	16	32	32
Compressors	Digital Scroll	1	1	1	1	1	1	1
	Scroll	--	--	1	1	2	3	3
	On/Off	--	--	1	1	2	3	3
Air flow	m <sup>3</sup> /h	5820	5820	12000	12000	12000	20000	24000
Max. length of lines	m	300	300	500	500	500	500	500
Max. height difference. (indoor-indoor unit)	m	10	10	15	15	15	15	15
Max. height difference (outdoor-outdoor unit)*	m	30	30	50	50	50	50	50
Max. height difference (indoor-outdoor unit)**	m	25	25	40	40	40	40	40
Fans	n.	2	2	1	1	1	2	2
♪ Sound pressure	dB (A)	58	58	58	58	60	60	60
Refrigerator connections	Ø liquid	9,52(3/8")	9,52(3/8")	9,52(3/8")	9,52(3/8")	12,7(1/2")	15,9(5/8")	15,9(5/8")
	Ø gas	15,9(5/8")	19(3/4")	22,2(7/8")	22,2(7/8")	28,6(1" 1/8")	28,6(1" 1/8")	28,6(1" 1/8")
	Type	flare	flare	brazing	brazing	brazing	brazing	brazing
Feeding		1~230V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz

\* = outdoor unit installed in a higher position than the indoor unit.

\*\* = outdoor unit installed in a lower position than the indoor unit.

♪ measured at 1 m frontal in semianechoic chamber.

■ Cooling:

- room air temperature 27 °C D.B., 19 °C W.B.;
- outdoor air temperature 35 °C D.B.

■ Heating:

- room air temperature 20 °C D.B.;
- outdoor air temperature 7 °C D.B., 6 °C W.B.

## Technical data

<b>Indoor units</b>	<b>MDS</b>	<b>22WN</b>	<b>28WN</b>	<b>36WN</b>	<b>45WN</b>	<b>50WG</b>	<b>56WG</b>		
Cooling capacity	W	2200	2800	3600	4500	5000	5600		
Heating capacity	W	2500	3200	4000	5000	5500	6300		
Air flow	m <sup>3</sup> /h	360	360	500	500	700	750		
Moisture removed	l/h	1	1	1,2	1,2	1,4	1,5		
Total absorbed power	W	32	32	48	48	66	66		
♪ Sound pressure (min.)	dB (A)	28	28	32	32	38	40		
♪ Sound pressure (max.)	dB (A)	31	31	35	35	42	45		
Refrigerator connections	Ø liquid	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")	9,52(3/8")		
	Ø gas	9,52(3/8")	9,52(3/8")	12,7(1/2")	12,7(1/2")	12,7(1/2")	15,9(5/8")		
	Type	flare	flare	flare	flare	flare	flare		
Feeding		230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz		
<b>Indoor units</b>	<b>MDS</b>	<b>28C</b>	<b>36C</b>	<b>45C</b>	<b>50C</b>	<b>56C</b>	<b>71C</b>	<b>90C</b>	<b>112C</b>
Cooling capacity	W	2800	3600	4500	5000	5600	7100	9000	11200
Heating capacity	W	3200	4000	5000	5500	6300	8000	10000	12500
Air flow	m <sup>3</sup> /h	680	680	680	680	1180	1180	1860	1860
Moisture removed	l/h	0,8	0,8	1,2	1,2	1,9	1,9	2,7	2,7
Total absorbed power	W	60	60	65	65	83	83	133	133
♪♪ Sound pressure (min.)	dB (A)	34	34	34	34	35	35	36	36
♪♪ Sound pressure (max.)	dB (A)	37	37	37	37	39	39	40	40
Refrigerator connections	Ø liquid	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")	9,52(3/8")	9,52(3/8")	9,52(3/8")	9,52(3/8")
	Ø gas	9,52(3/8")	12,7(1/2")	12,7(1/2")	12,7(1/2")	15,9(5/8")	15,9(5/8")	15,9(5/8")	15,9(5/8")
	Type	flare	flare	flare	flare	flare	flare	flare	flare
Feeding		230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz
<b>Indoor units</b>	<b>MDS</b>	<b>28CS</b>		<b>36CS</b>		<b>45CS</b>			
Cooling capacity	W	2800		3600		4500			
Heating capacity	W	3200		4000		5000			
Air flow	m <sup>3</sup> /h	600		600		600			
Moisture removed	l/h	0,8		0,8		1,2			
Total absorbed power	W	12		12		12			
♪♪ Sound pressure (max.)	dB (A)	47		47		47			
Refrigerator connections	Ø liquid	6,35(1/4")		6,35(1/4")		6,35(1/4")			
	Ø gas	9,52(3/8")		12,7(1/2")		12,7(1/2")			
	Type	flare		flare		flare			
Feeding		230V ~ 50Hz		230V ~ 50Hz		230V ~ 50Hz			
<b>Indoor units</b>	<b>MDS</b>	<b>28F</b>	<b>36F</b>	<b>50F</b>	<b>71F</b>	<b>112F</b>			
Cooling capacity	W	2800	3600	5000	7100	11200			
Heating capacity	W	3200	4000	5800	8000	12500			
Air flow	m <sup>3</sup> /h	550	600	700	1170	2200			
Total absorbed power	W	19	19	75	185	280			
♪♪ Sound pressure (max.)	dB (A)	37	38	47	50	53			
Refrigerator connections	Ø liquid	6,35(1/4")	6,35(1/4")	6,35(1/4")	9,52(3/8")	9,52(3/8")			
	Ø gas	9,52(3/8")	12,7(1/2")	12,7(1/2")	15,9(5/8")	15,9(5/8")			
	Type	flare	flare	flare	flare	flare			
Alimentazione		230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz			
<b>Indoor units</b>	<b>MDS</b>	<b>22D</b>	<b>25D</b>	<b>28D</b>	<b>36D</b>	<b>45D</b>	<b>50D</b>		
Cooling capacity	W	2200	2500	2800	3600	4500	5000		
Heating capacity	W	2500	3000	3200	4000	5000	5500		
Air flow	m <sup>3</sup> /h	450	450	570	570	840	840		
Moisture removed	l/h	0,7	0,7	0,9	0,9	1,3	1,3		
Total absorbed power	W	54	54	55	55	154	154		
♪♪ Sound pressure (min.)	dB (A)	33	33	35	35	36	36		
♪♪ Sound pressure (max.)	dB (A)	37	37	39	39	40	40		
Refrigerator connections	Ø liquid	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")		
	Ø gas	9,52(3/8")	9,52(3/8")	9,52(3/8")	12,7(1/2")	12,7(1/2")	12,7(1/2")		
	Type	flare	flare	flare	flare	flare	flare		
Feeding		230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz		
<b>Indoor units</b>	<b>MDS</b>	<b>56D</b>	<b>71D</b>	<b>80D</b>	<b>90D</b>	<b>112D</b>	<b>140D</b>		
Cooling capacity	W	5600	7100	8000	9000	11200	14000		
Heating capacity	W	6300	8000	8800	10000	12500	14500		
Air flow	m <sup>3</sup> /h	1400	1400	1400	2000	2000	2000		
Moisture removed	l/h	2,1	2,1	2,1	3	3	3		
Total absorbed power	W	300	305	305	470	470	470		
♪♪ Sound pressure (min.)	dB (A)	38	38	38	40	40	40		
♪♪ Sound pressure (max.)	dB (A)	42	42	42	44	44	44		
Refrigerator connections	Ø liquid	9,52(3/8")	9,52(3/8")	9,52(3/8")	9,52(3/8")	9,52(3/8")	9,52(3/8")		
	Ø gas	15,9(5/8")	15,9(5/8")	15,9(5/8")	15,9(5/8")	15,9(5/8")	15,9(5/8")		
	Type	a cartella	a cartella	a cartella	a cartella	a cartella	a cartella		
Feeding		230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz		

The performance data refer to the following conditions:

♪ measured at 1 m in semianechoic chamber.

♪♪ measured at 1.4 m in semianechoic chamber.

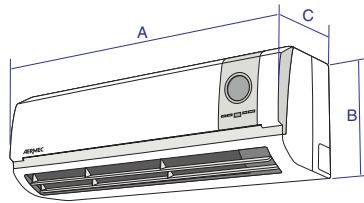
■ Cooling:

- room air temperature 27 °C D.B., 19 °C W.B.;
- outdoor air temperature 35 °C D.B.

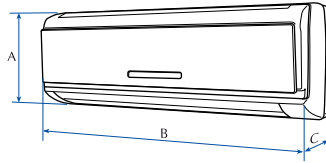
■ Heating:

- room air temperature 20 °C D.B.
- outdoor air temperature 7 °C D.B., 6 °C W.B.

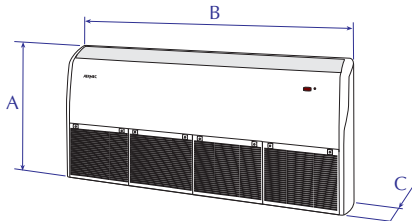
## Dimensional data (mm)



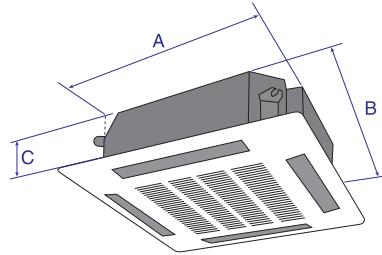
MDS WG



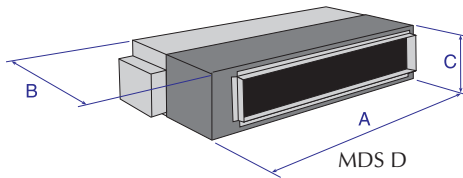
MDS WN



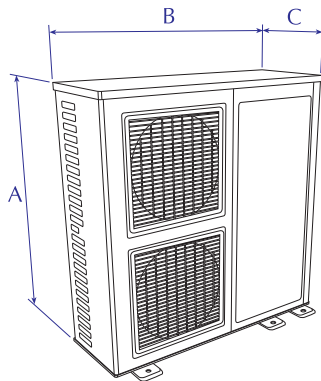
MDS F



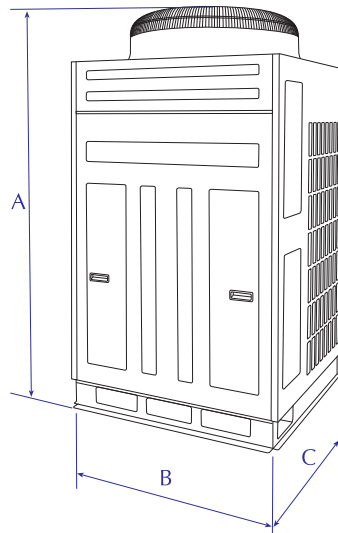
MDS C



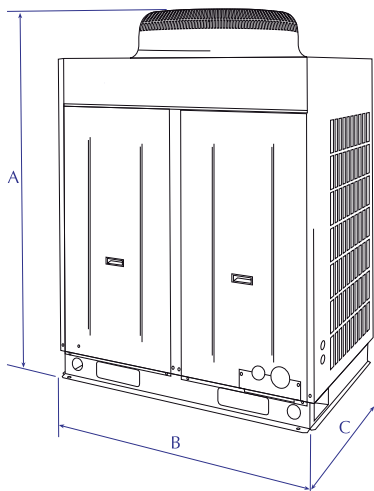
MDS D



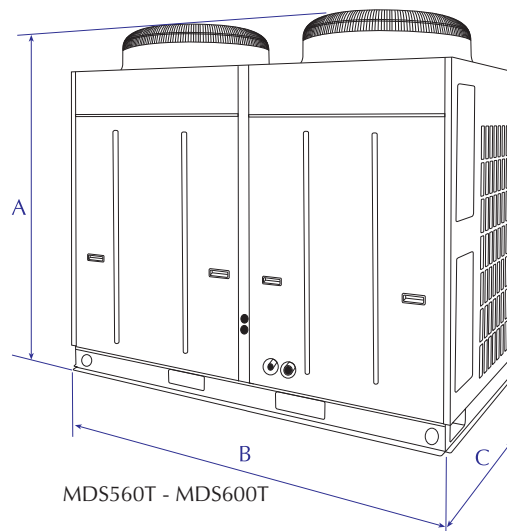
MDS120 - MDS160T



MDS260T - MDS300T



MDS450T



MDS560T - MDS600T

	A (mm)	B (mm)	C (mm)	Peso (kg)
MDS22WN	770	250	190	8
MDS28WN	770	250	190	8
MDS36WN	830	285	189	11
MDS45WN	830	285	189	11
MDS50WG	1020	310	228	12
MDS56WG	1020	310	228	12
MDS28C*	840	840	190	25
MDS36C*	840	840	190	25
MDS45C*	840	840	190	25
MDS50C*	840	840	190	25
MDS56C*	840	840	240	30
MDS71C*	840	840	240	30
MDS90C*	840	840	320	38
MDS112C*	840	840	320	38
MDS28CS**	570	570	230	20
MDS36CS**	570	570	230	20
MDS45CS**	570	570	230	20
MDS28F	695	840	238	26
MDS36F	695	840	238	26
MDS50F	695	840	238	26
MDS71F	600	1300	188	32
MDS112F	695	1590	238	42
MDS22D	875	680	220	27
MDS25D	875	680	220	27
MDS28D	875	680	220	27
MDS36D	875	680	220	27
MDS45D	980	736	266	36
MDS50D	980	736	266	36
MDS56D	1155	756	300	55
MDS71D	1155	756	300	55
MDS80D	1155	756	300	55
MDS90D	1425	756	300	75
MDS112D	1425	756	300	75
MDS140D	1425	756	300	75
MDS120	1250	1100	340	140
MDS160T	1250	1100	340	140
MDS260T	1772	990	880	280
MDS300T	1772	990	880	300
MDS450T	1772	1290	880	450
MDS560T	1760	1980	920	600
MDS600T	1760	1980	920	600

\*: MDSGL40 griglia 950x950x60 mm;  
Weight = 6,5 kg;

\*\* : MDSGL40S griglia 650x650x50 mm;  
Weight = 5 kg;